



PUBLIC WORKS DEPARTMENT
WATER RESOURCES DIVISION

WATER METER REPLACEMENT PROGRAM UPDATE

Water Commission April 20, 2017

Overview

- Metering Program Goals
- Meter Replacement Update
- Water Loss - Bench Testing
- Next Steps

Water Metering Program Goals

- Improved customer service
- Equity amongst rate payers
- Public trust and high regard
- Compliance with AWWA meter maintenance guidelines

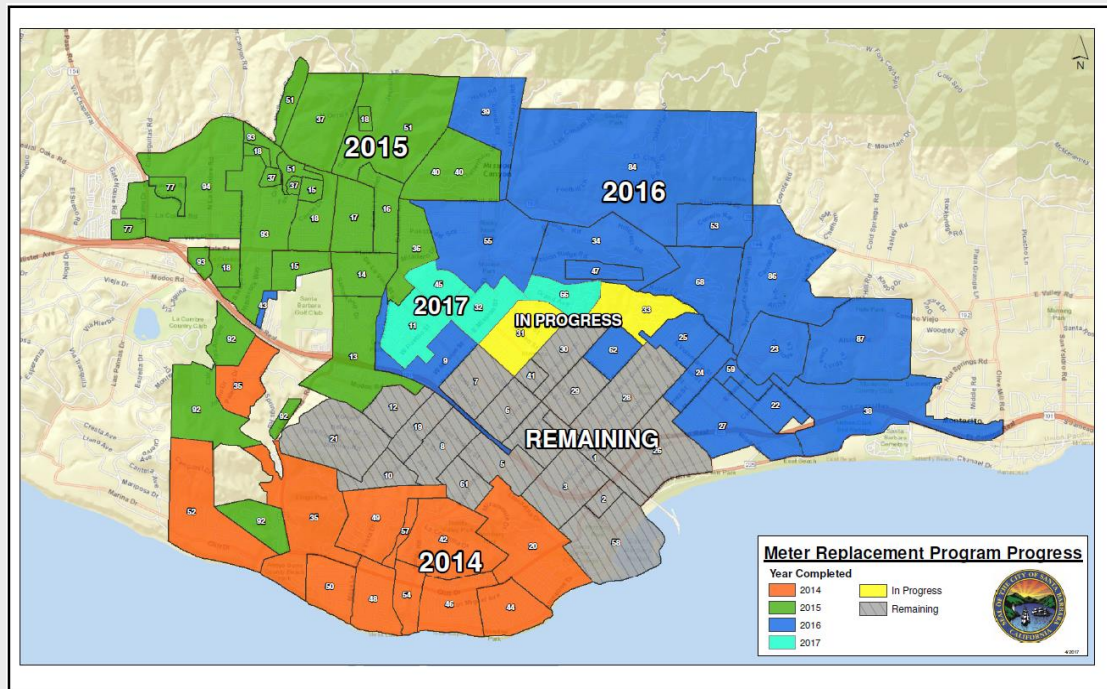
The City's Water Meters

- The City has 27,000 meters, of which 24,000 are residential.
- Projected lifespan of a meter is 15-20 years.
- As meters age, they are prone to under registering use.
 - 30% of City meters were beyond 20 years of age in 2014 when the program began
 - As of April 2017 that number is down to 9%

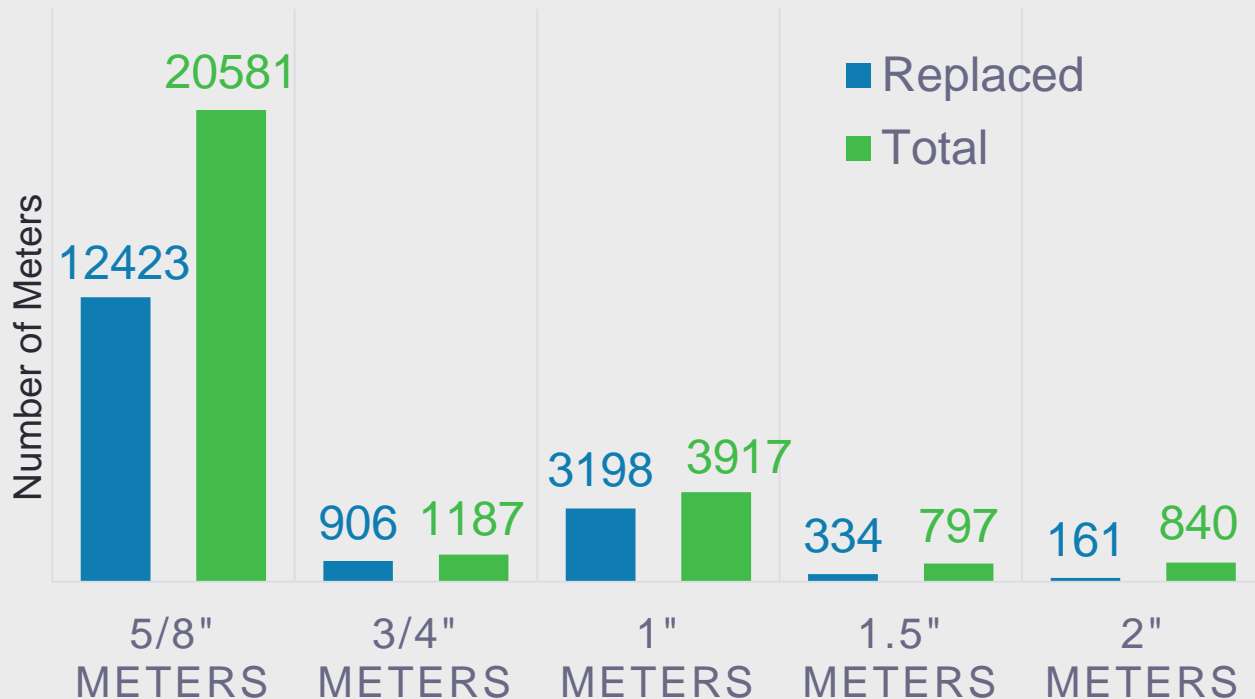
How We Use Our Meters

- Recover costs for water use in a fair and equitable manner
- Manage system-wide water usage
- Communicate water usage to customers
 - Understand water usage
 - Encourage water conservation
 - Assist with leak detection

Meter Replacement Program



Water Meters Replaced as April 2017



Work Force

- Work performed by in-house forces.
- 3 two-man crews, which includes 3 hourly field staff.
- Better control over the costs and schedule.
- Holistic approach has allowed other meter maintenance needs to be evaluated, replaced, and cataloged.



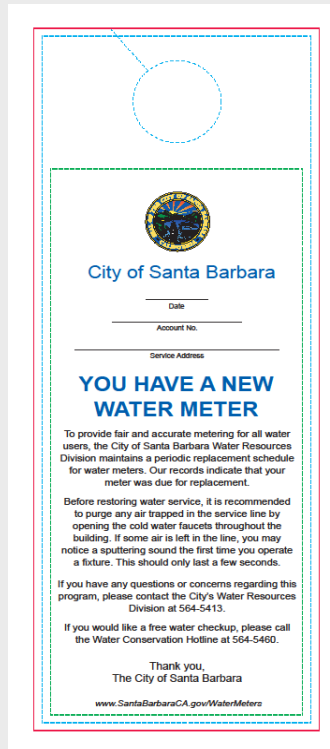
Additional Maintenance Performed


- Meter Valves replaced: 1,429
- Meter Box Improvements: 2,980



Public Outreach - Multifaceted

- Notifications in the utility bill
- Posted updates on the Nextdoor neighborhood social network
- Onsite contact prior to meter replacement
- Door hangers left at customer's property once meter is replaced
- Post Meter Replacement Program info on the City's [website](http://www.santabarbaraca.gov/WaterMeters)





City of Santa Barbara

Date _____

Account No. _____

Service Address _____

YOU HAVE A NEW WATER METER

To provide fair and accurate metering for all water users, the City of Santa Barbara Water Resources Division maintains a periodic replacement schedule for water meters. Our records indicate that your meter was due for replacement.

Before restoring water service, it is recommended to purge any air trapped in the service line by opening the cold water faucets throughout the building. If some air is left in the line, you may notice a sputtering sound the first time you operate a fixture. This should only last a few seconds.

If you have any questions or concerns regarding this program, please contact the City's Water Resources Division at 564-5413.

If you would like a free water checkup, please call the Water Conservation Hotline at 564-5460.

Thank you,
The City of Santa Barbara

www.SantaBarbaraCA.gov/WaterMeters

Inventory Control

- Detailed process to ensure meter exchange data is accurate.
- Old meters have a 6-week retention schedule before recycling.
- New meters are field verified.

Small Water Meter Selection



- Conducted detailed research on meter technologies and performance
- Competitive bid process based on detailed specification
- Positive displacement (5/8" to 2") technology selected to measure water use
- Reliable technology that has been used for over 100 years
- 95% accurate at 0.25 gpm

Large Water Meter Selection



- Ultrasonic meters (2" & up) use ultrasound to calculate volume flow
- Capable of registering much lower flows than traditional larger meters

Water Loss Auditing

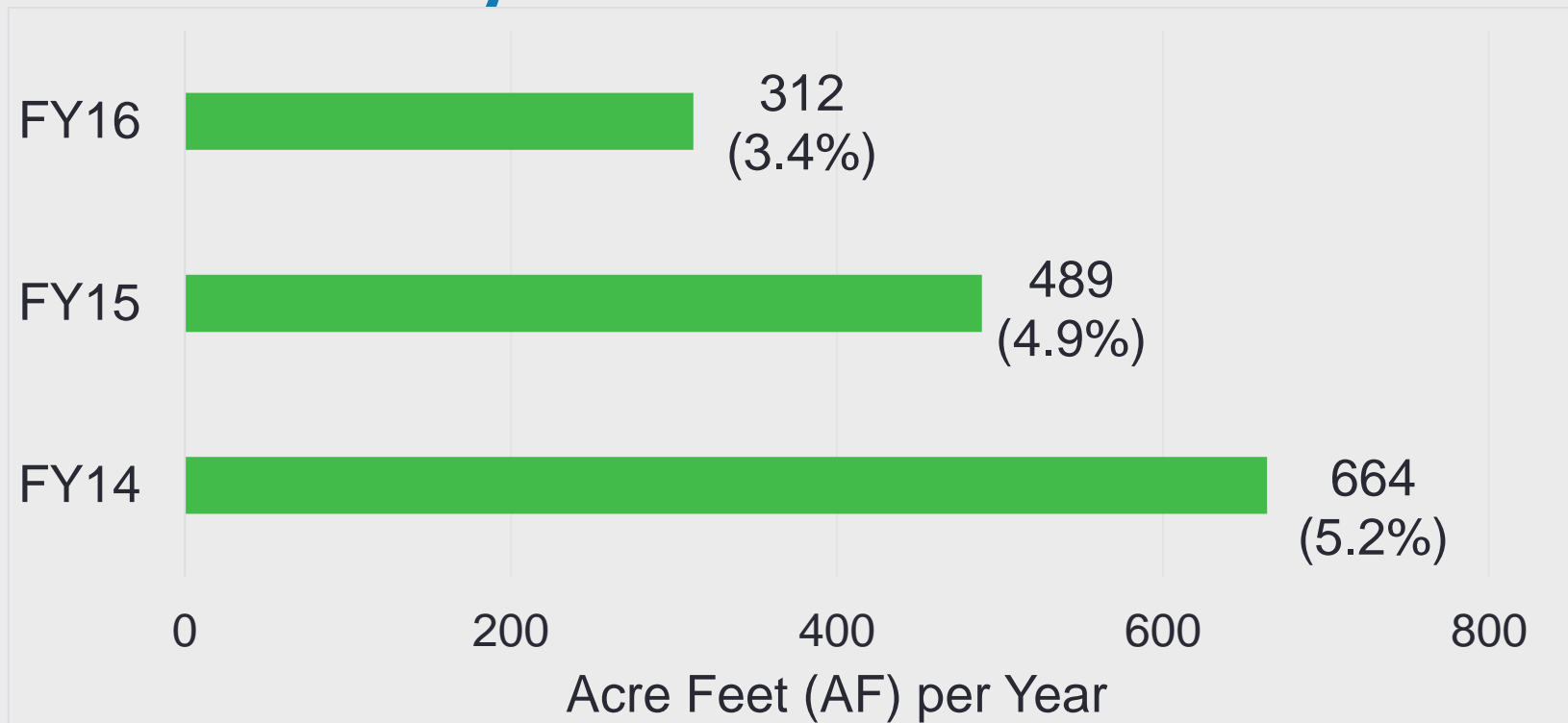
- City has been accounting for water system losses per CUWCC annual Best Management Practices reporting
- Water loss auditing software created by AWWA recognizes meter inaccuracy is a component of water loss
- State Assembly Bill 555 now will require all urban retail water suppliers to report validated water audits annually to Dept of Water Resources

Meter Program Management

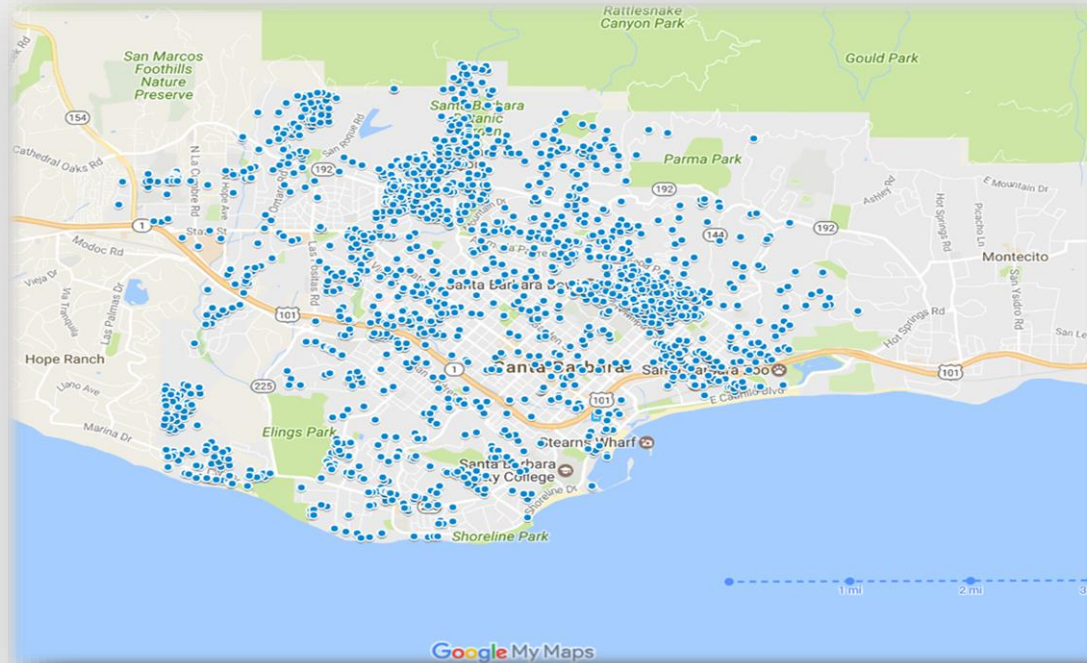
- 15% of old meters have been flow tested to validate meter replacement and to better quantify meter inaccuracy figures.



Meter Inaccuracy Estimates



2,656 Meters Tested Citywide



Metering Program – Next Steps

- Near Term
 - Continue replacing meters
 - Additional focus on 1.5” and 2” meters
 - Software upgrade to track meter replacement workflow



Metering Program – Next Steps

- Long Term
 - Use bench testing data to determine useful meter life and smooth long term replacement plan
 - Pursue AMI
 - Improved data
 - Better customer service
 - Enhance leak detection

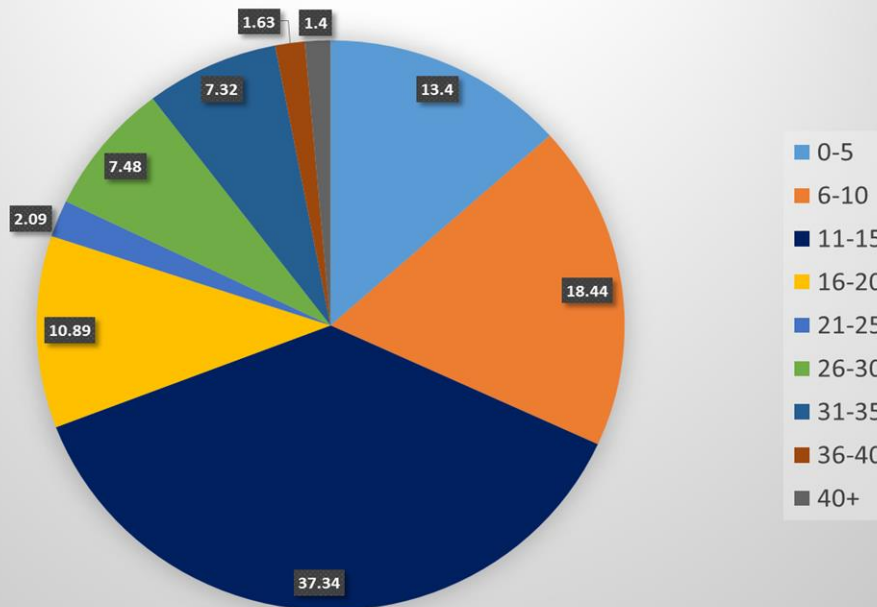


Questions?

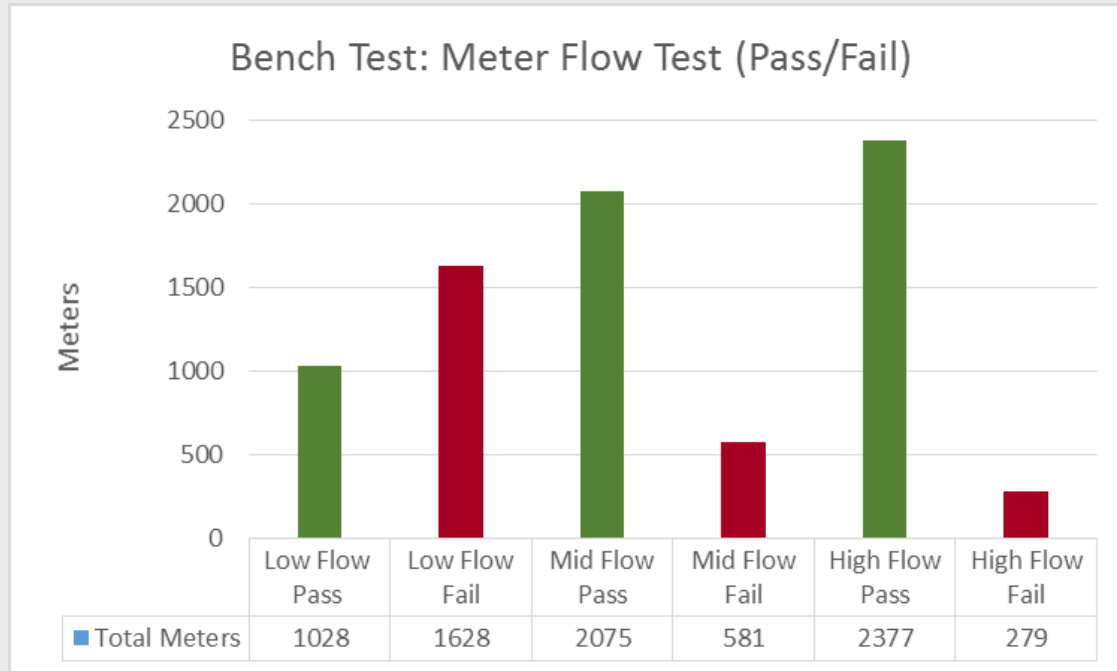


Test Sample by Meter Age

Bench Test: Percent of Total Meters Sampled by Age



Bench Test Results



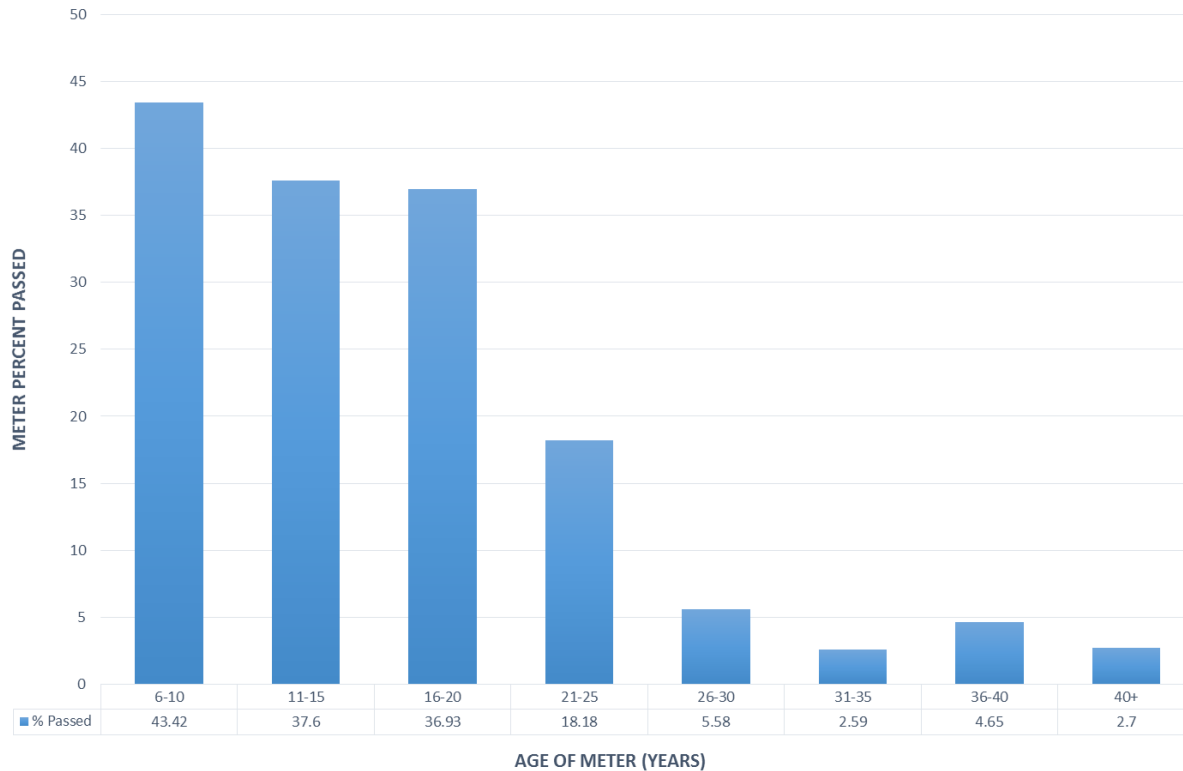
Bench Testing Results

◆ Meter Age (years)	Accuracy
■ 0 to 10	95%
■ 11 to 20	92%
■ 20 +	84%
◆ Flow Rate (gpm)	Accuracy
■ Low (<1/4)	55%
■ Medium (1/2 – 1)	93%
■ High (>2)	99%

Asset Management & Water Meters

- Respond to metering trends based on system needs
- ◆ Offer equitably accounting of water consumption amongst all rate payers
- ◆ Help reduce water loss system-wide
- ◆ Support long-term efforts to conserve water

Bench Test: Meters Passed (%) by Age



Results by meter size

